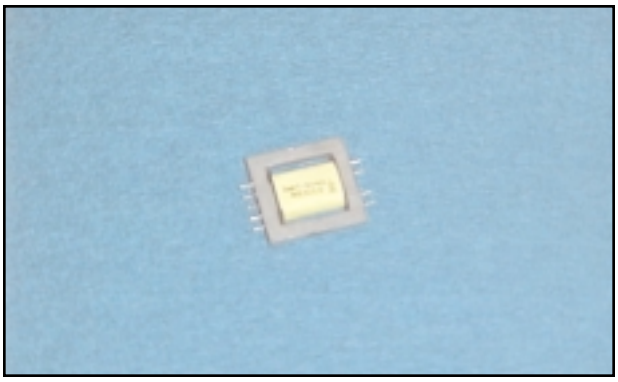
Analog Telephony / Modem Couplers



DESCRIPTION

The REMtech Magnetics SMIT-304 is a “Dry” SMT Modem Isolation Transformer suitable for up to V.34 (33.6 kbps) consumer and internet analog modem applications compliant with Domestic safety norms.

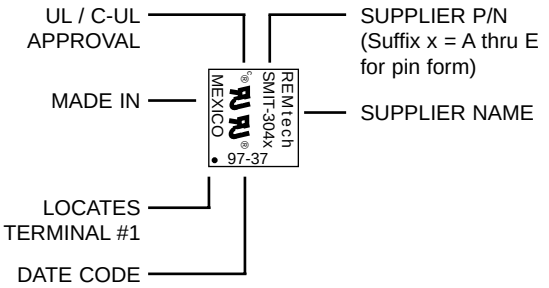
FEATURES

- Suitable for modem speeds up to V.34 (33.6 kbps).
- Total Harmonic Distortion rated -88 dB typ. @ 600 Hz, -10 dBm.
- Insertion Loss rated 2.65 dB typ. @ 1000 Hz.
- Complies with UL1459 safety norms.
- Reflects 600 Ohms on Primary with 294Ohms Secondary Load.
- Very small PCB footprint (19.8 mm x 16.3 mm).
- Thin (PCMCIA) Profile (4.32 mm).
- SMT Industry-standard pin configurations.

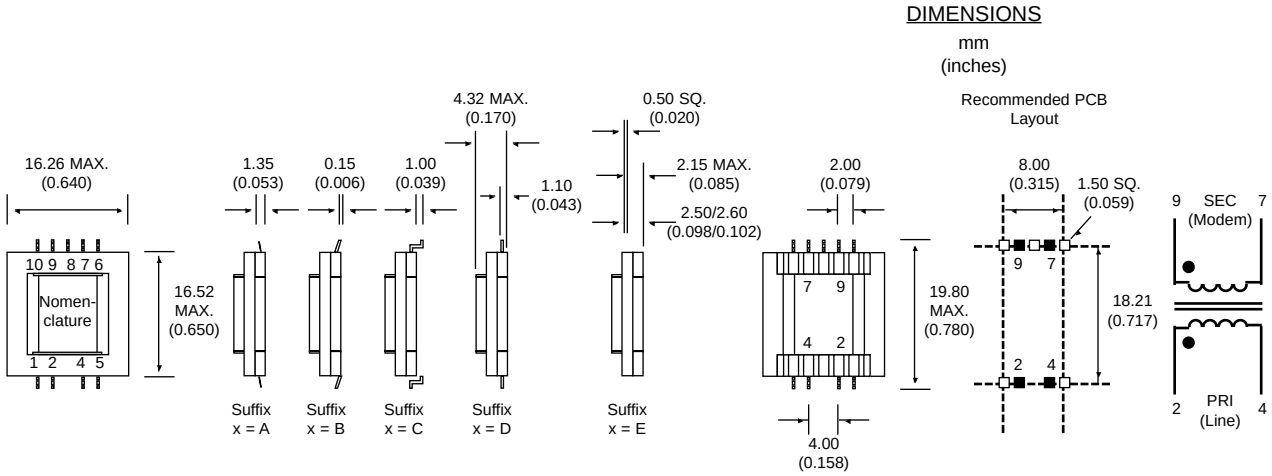
PRODUCT COMPLIANCE

- UL / C-UL recognized file number: E171120

NOMENCLATURE (Fig. 1)



MECHANICAL DIMENSIONS (Fig. 2)



Note: Routing conductive traces under the transformer is not recommended.

Literature Number: DSA.SMIT-304

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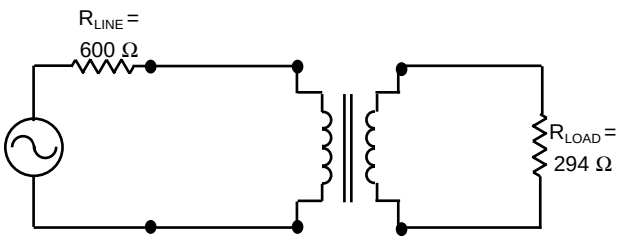
ELECTRICAL PERFORMANCE SPECIFICATIONS

Electrical Performance Specifications (T_A = 25 °C unless otherwise specified)

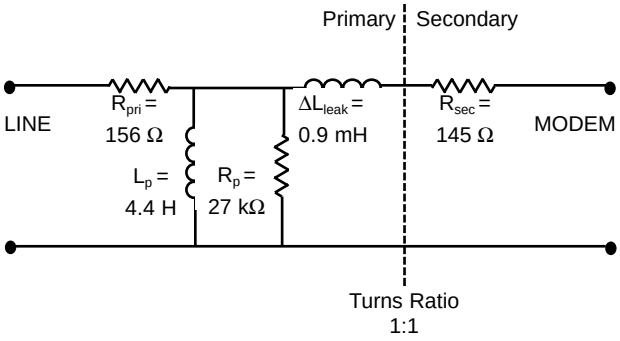
PARAMETERS	CONDITIONS	MIN	TYP	MAX	UNITS
Impedance	Reflected on Primary With Load on Secondary	- -	600 294	- -	Ohms Ohms
Total Harmonic Distortion	@ 600 Hz, -10 dBm @ 150 Hz, -3 dBm	- -	-88 -60	-82 -	dB dB
Insertion Loss	Per IEEE method; @ 1000 Hz	-	2.65	3.40	dB
Return Loss	200 Hz - 4000 Hz Per 600 Ohm Match (Fig. 3)	25	-	-	dB
Dielectric Breakdown Isolation Production methods applied:	Safety Standard tested 1 Min. HiPot Voltage Duration Trip Leakage Current	1000 1250 2 -	- - - -	- - - 200	Vrms Vrms Sec µA
Frequency Response	200 Hz - 4000 Hz	-	±0.25	-	dB
Longitudinal Balance	Per FCC part 68.310 60 Hz - 1000 Hz 1000 Hz - 4000 Hz	 60 40	 - -	 - -	 dB dB
DC Resistance @ 20°C, ±10%	Primary Winding Secondary Winding	- -	156 145	- -	Ohms Ohms
DC Current in Primary	-	-	0	-	mADC
Turns Ratio	Primary to Secondary; ±2%	-	1:1	-	Turns
Operating Temperature	-	-40	-	105	°C
Storage Temperature	-	-40	-	125	°C
Soldering Temperature	10 Sec. Max.	-	-	260	°C

600 OHM MATCH (Fig. 3)



SCHEMATIC EQUIVALENT (Fig. 4)

(Typical Transformer Model @ 1 V, 1 kHz)



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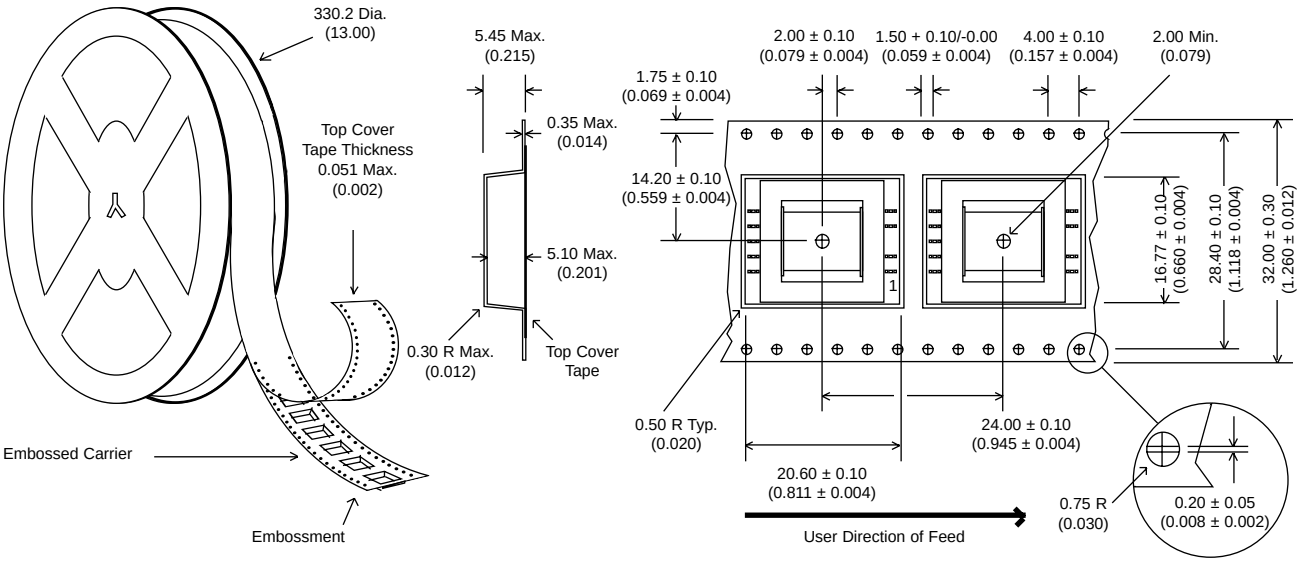
STANDARD PACKAGING (Fig. 9)

Tape and Reel Packaging for SMIT-304



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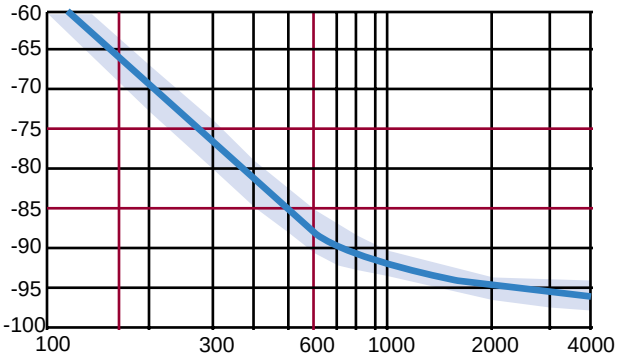
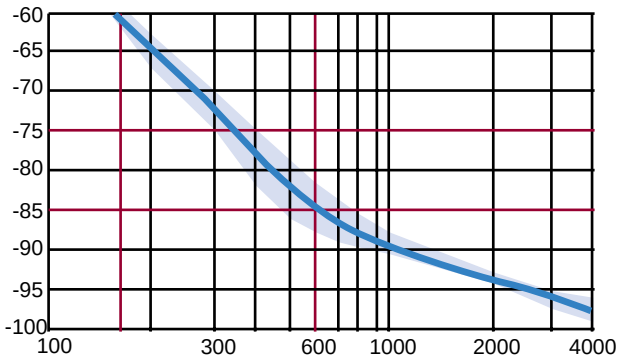
PERFORMANCE DATA

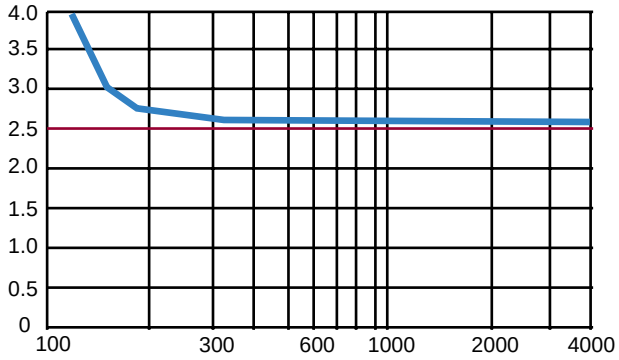
TOTAL HARMONIC DISTORTION (Fig. 5)





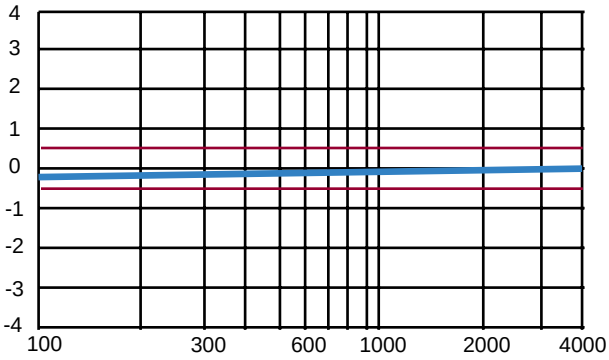
INSERTION LOSS (Fig. 6)

Typical Insertion Loss (dB) across Frequency (Hz)



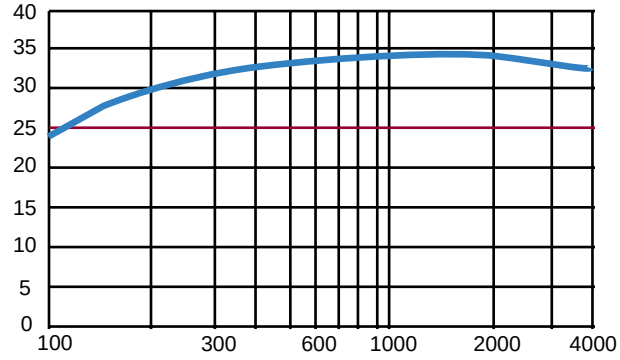
FREQUENCY RESPONSE (Fig. 7)

Typical Frequency Response (dB) across Frequency (Hz)



RETURN LOSS (Fig. 8)

Typical Return Loss (dB) across Frequency (Hz)



(Measured per 600 Ω Match depicted in Fig. 3)

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